

101

Work Order ID 125510

125510

Item ID: 41228-000-004-011

Accept

N9000040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: External Fuel System with Aux Tank Filler Cap 412EP

Start Date: 10/9/2014 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 10/9/2014 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: ML5 Date: 11-10-09

Tooling:

Date:

Run

Start

NR1

QC: _____ Date: _____ SPC (Y/N): _____

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
41228-000-004	D1

100

100

DOCUMENT CONTROL

0.00

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile & type labels per PPP 41228-000-004-011 chg001

110

110

Pick Kit

0.00

Packaging

Memo

0.00

Packaging

120

120

QC4- 100% Inspect kits for completeness

0.00

QC

Memo

0.00

Quality Control

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Work Order ID 125510***125510***

Page 2

Thursday, October 09, 2014 2:20:20 PM

Item ID: 41228-000-004-011**Accept*****N900040100*****Setup Start*****NS1*****Revision ID:****Stop*****NS2*****Item Name:** External Fuel System with Aux Tank Filler Cap 412EP**Start Date:** 10/9/2014 **Start Qty:** 1.00 ***1*****Cust Item ID:****Required Date:** 10/9/2014 **Req'd Qty:** 1.00 ***1*****Customer:****Reference:**

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run Start***NR1*****Stop*****NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Packaging	0.00							
130									
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP 41228-000-004-011 Location: _____								
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.00							
Quality Control									

Closed 25 incomplete
write all

W 17.05.24

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

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Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

Thursday, October 09, 2014 2:20:24 PM

Page 1

Work Order ID: 125510

125510

Parent Item: 41228-000-004-011

41228-000-004-011

Parent Item Name: External Fuel System with Aux Tank Filler Cap 412EP

Start Date: 10/9/2014

Required Date: 10/9/2014

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 14.10.01 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MS20613-4C4		Purchased	No				Each	0.0000		12			
MS20613-4C4									**				
Rivet	ST m130626												
41228-301-001-003		Manufactured	No				Each	3.0000		1			
41228-301-001-003									**				
Decal - Black Lettering on Clear Background													
				<u>Location</u>			<u>Loc Qty</u>			<u>Loc Code</u>			
				CA			3						
					m129682		3						
41228-301-001-004		Manufactured	No				Each	5.0000		1			
41228-301-001-004									**				
Decal - White Lettering on Clear Background													
				<u>Location</u>			<u>Loc Qty</u>			<u>Loc Code</u>			
				CA			5						
					m129682		5						
41228-301-001-009		Manufactured	No				Each	3.0000		4			
41228-301-001-009									**				
Decal - White Lettering on Clear Background													
				<u>Location</u>			<u>Loc Qty</u>			<u>Loc Code</u>			
				CA			3						
					m129682		3						
41228-202-052-001		Manufactured	No				Each	18.0000		4			
41228-202-052-001									**				
412 Link													
				<u>Location</u>			<u>Loc Qty</u>			<u>Loc Code</u>			
				CA			18						
					m129682		18						

KC 14/08/12

KC 14/08/12

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
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Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

Thursday, October 09, 2014 2:20:24 PM

Page 2

Work Order ID: 125510

125510

Parent Item: 41228-000-004-011

41228-000-004-011

Parent Item Name: External Fuel System with Aux Tank Filler Cap 412EP

Start Date: 10/9/2014

Required Date: 10/9/2014

Start Qty: 1.00

Required Qty: 1.00

41228-202-052-009

Manufactured No

Each

18.0000

4

41228-202-052-009

412 Link

RC 14/08/12

Location

Loc Qty

Loc Code

CA

18

m129682

18

Each

12.0000

4

41228-202-132-001

Manufactured No

41228-202-132-001

Shim

RC 14/08/12

Location

Loc Qty

Loc Code

CA

12

M129682

12

Each

33.0000

4

41228-202-132-003

Manufactured No

41228-202-132-003

Shim

RC 14/08/12

Location

Loc Qty

Loc Code

CA

33

M129682

33

Each

56.0000

4

41228-202-132-005

Manufactured No

41228-202-132-005

Shim

RC 17/08/12

Location

Loc Qty

Loc Code

CA

56

M129682

56

Each

33.0000

4

41228-202-132-007

Manufactured No

41228-202-132-007

Shim

RC 14/08/12

Location

Loc Qty

Loc Code

CA

33

M129682

33

Thursday, October 09, 2014 2:20:24 PM

Shop Packet Print

Page 2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
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Material									
Operator									
Offset/Setup									
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Supplier									
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Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

Thursday, October 09, 2014 2:20:24 PM

Page 3

Work Order ID: 125510

125510

Parent Item: 41228-000-004-011

41228-000-004-011

Parent Item Name: External Fuel System with Aux Tank Filler Cap 412EP

Start Date: 10/9/2014

Required Date: 10/9/2014

Start Qty: 1.00

Required Qty: 1.00

41228-202-132-009

Manufactured No

Each

16.0000

6

41228-202-132-009

Shim

**

KC 14/08/12

Location

Loc Qty

Loc Code

CA

16

M129682

16

Each

53.0000

6

**

KC 14/08/12

41228-202-132-011

Manufactured No

41228-202-132-011

Shim

Location

Loc Qty

Loc Code

CA

53

M129682

53

Each

69.0000

6

**

KC 14/08/12

41228-202-132-013

Manufactured No

41228-202-132-013

Shim

Location

Loc Qty

Loc Code

CA

69

m129682

69

Each

57.0000

6

**

KC 14/08/12

41228-202-132-015

Manufactured No

41228-202-132-015

Shim

Location

Loc Qty

Loc Code

CA

57

M129682

57

Thursday, October 09, 2014 2:20:25 PM

Shop Packet Print

Page 3

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

Thursday, October 09, 2014 2:20:25 PM

Page 4

Work Order ID: 125510

125510

Parent Item: 41228-000-004-011

41228-000-004-011

Parent Item Name: External Fuel System with Aux Tank Filler Cap 412EP

Start Date: 10/9/2014

Required Date: 10/9/2014

Start Qty: 1.00

Required Qty: 1.00

NAS1149F0363P

Purchased

No

Each

682.0000

32

NAS1149F0363P

WASHER

KC 14/08/12

ST 260a
268

Location

Loc Qty

Loc Code

ST510a

682

124555

594

125445

85

m122815

3

Each

905.0000

16

KC 14/08/12

AN3C4A

Purchased

No

AN3C4A

Bolt

ST 350

Location

Loc Qty

Loc Code

FG

20

122814

20

ST350

885

124221

12

M127410

1

M127832

62

M128606

32

M128634

8

M128739

4

M128879

71

M129520

695

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
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Doc/Data ☐									
Equip/Tooling ☐									
Handling/Pre ☐									
Material ☐									
Operator ☐									
Offset/Setup ☐									
Process ☐									
Supplier ☐									
Training ☐									
Transport ☐									
Unapproved ☐									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

Thursday, October 09, 2014 2:20:25 PM

Page 5

Work Order ID: 125510

125510

Parent Item: 41228-000-004-011

41228-000-004-011

Parent Item Name: External Fuel System with Aux Tank Filler Cap 412EP

Start Date: 10/9/2014

Required Date: 10/9/2014

Start Qty: 1.00

Required Qty: 1.00

NAS1149D0363J

Purchased

No

Each

2,073.000

16

NAS1149D0363.J

Washer

KC 14/08/12

Location

Loc Qty

Loc Code

GA

7

124392

7

ST276

1005

m123441

5

m130358

1000

ST510a

1061

m128429

1061

AN4-16A

Purchased

No

Each

144.0000

2

AN4-16A

Bolt

KC 14/08/12

Location

Loc Qty

Loc Code

FG

5

121541

5

ST343

116

M129590

66

M130466

50

ST357

23

M128324

19

M128978

4

NAS1149D0563J

Purchased

No

Each

1,487.000

16

NAS1149D0563.J

Washer

KC 14/08/12

Location

Loc Qty

Loc Code

GA

124

m125807

124

ST510a

1363

m126319

98

m128257

1265

Thursday, October 09, 2014 2:20:25 PM

Shop Packet Print

Page 5

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

Thursday, October 09, 2014 2:20:25 PM

Page 6

Work Order ID: 125510

125510

Parent Item: 41228-000-004-011

41228-000-004-011

Parent Item Name: External Fuel System with Aux Tank Filler Cap 412EP

Start Date: 10/9/2014

Required Date: 10/9/2014

Start Qty: 1.00

Required Qty: 1.00

AN3-13A

Purchased

No

Each

51.0000

8

AN3-13A

Bolt

KE 14/08/12

Location

Loc Qty

Loc Code

CA

5

m129682

5

ST351

46

m127070

46

AN4-13A

Purchased

No

Each

448.0000

2

AN4-13A

Bolt

KE 14/08/12

Location

Loc Qty

Loc Code

CA

2

m129682

2

FG

20

122808

20

GA

58

m125709

14

m128739

44

ST344

368

121652

4

m127432

36

m127817

22

m130325

306

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

Thursday, October 09, 2014 2:20:25 PM

Page 7

Work Order ID: 125510

125510

Parent Item: 41228-000-004-011

41228-000-004-011

Parent Item Name: External Fuel System with Aux Tank Filler Cap 412EP

Start Date: 10/9/2014

Required Date: 10/9/2014

Start Qty: 1.00

Required Qty: 1.00

AN5-13A Purchased No

Each 66.0000 2

AN5-13A

BOLT

KE 14/08/12

Location

Loc Qty

Loc Code

CA

6

m129682

6

ST338

60

116003

12

m129521

23

m130466

25

AN5-16A Purchased No

Each 132.0000 2

AN5-16A

Bolt

KE 14/08/12

Location

Loc Qty

Loc Code

CA

98

M129682

98

Mezz

34

1084

34

MS20365-428 MS21044N4 Purchased No

Each 64.0000 8

MS20365-428

Nut

KE 14/08/12

Location

Loc Qty

Loc Code

ST315

64

m128818

64

MS20365-524 Purchased No

Each 0.0000 4

MS20365-524

NUT

K

No stock

ST

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

Thursday, October 09, 2014 2:20:26 PM

Page 8

Work Order ID: 125510

125510

Parent Item: 41228-000-004-011

41228-000-004-011

Parent Item Name: External Fuel System with Aux Tank Filler Cap 412EP

Start Date: 10/9/2014

Required Date: 10/9/2014

Start Qty: 1.00

Required Qty: 1.00

MS21044N3

Purchased

No

Each

50.0000

24

MS21044N3

NUT

14/08/12

Location

Loc Qty

Loc Code

ST306

50

m129541

50

Each

4,206.000

36

NAS1149D0463J

Purchased

No

NAS1149D0463J

WASHER

14/08/12

Location

Loc Qty

Loc Code

CA

472

M129682

472

ST277

3734

16941

8

M126221

20

M127813

6

M127904

16

M128591

44

M128995

1500

M129390

2140

NAS6604-22

Purchased

No

NAS6604-22

BOLT

Each

30.0000

2

KC 14/08/12

Location

Loc Qty

Loc Code

ST269

30

m129541

30

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

Thursday, October 09, 2014 2:20:26 PM

Page 9

Work Order ID: 125510

125510

Parent Item: 41228-000-004-011

41228-000-004-011

Parent Item Name: External Fuel System with Aux Tank Filler Cap 412EP

Start Date: 10/9/2014

Required Date: 10/9/2014

Start Qty: 1.00

Required Qty: 1.00

41228-305-004-001

Manufactured No

Each

14.0000

1

41228-305-004-001

Bracket Assembly

KC 14/08/12

Location

Loc Qty

Loc Code

CA

14

M129682

14

41228-305-004-002

Manufactured No

Each

11.0000

1

41228-305-004-002

Bracket Assembly

KC 14/08/12

Location

Loc Qty

Loc Code

CA

11

m129682

11

41228-200-006-001

Manufactured No

Each

0.0000

1

41228-200-006-001

Tank Assy L/H

41228-200-006-002

Manufactured No

Each

0.0000

1

41228-200-006-002

Tank Assy R/H

41228-300-009-001

Manufactured No

Each

0.0000

1

41228-300-009-001

412 Fuel System, S/N 33108 & Sub

41228-301-066-003

Manufactured No

Each

0.0000

1

41228-301-066-003

Fuel Return Cavity, 412 S/N 33108 & Sub

- on order -

41228-305-005-001

Manufactured No

Each

0.0000

1

41228-305-005-001

Lug Cavity, LH Aft

PURCHASE PART

41228-305-005-002

Manufactured No

Each

0.0000

1

41228-305-005-002

Lug Cavity, RH Aft

PURCHASE PART

Thursday, October 09, 2014 2:20:26 PM

Shop Packet Print

Page 9



DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

Thursday, October 09, 2014 2:20:26 PM

Page 10

Work Order ID: 125510

125510

Parent Item: 41228-000-004-011

41228-000-004-011

Parent Item Name: External Fuel System with Aux Tank Filler Cap 412EP

Start Date: 10/9/2014

Required Date: 10/9/2014

Start Qty: 1.00

Required Qty: 1.00

41228-400-007-001 Manufactured No

Each 0.0000 1

41228-400-007-001

Airframe Wire Routing

41228-500-003-001 Manufactured No

Each 0.0000 1

41228-500-003-001

Overhead Circuit Breaker Panel

41228-502-026-001 Manufactured No

Each 0.0000 1

41228-502-026-001

Dual Bead Sensor/Impact Switch

41228-600-009-009 Manufactured No

Each 0.0000 1

41228-600-009-009

Control Panel

41228-700-011-001 Manufactured No

Each 0.0000 1

41228-700-011-001

Grounding Bracket Assembly

20528-301-008-003 Manufactured No

Each 0.0000 1

20528-301-008-003

Relocation of Ground Receptacle

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 03197				SHEET 1 OF 1	
	DWG NO. 41228-000-004		REV: D	PREPARED BY J. GARDINER	DATE: 08/16/11	EFFECT ON DWG ☐ INC. ☒ UNINC.
	DWG TITLE: FUEL TANK INSTALLATION					
APPROVED BY: ENGR <i>[Signature]</i>		MFG <i>[Signature]</i>		GC <i>[Signature]</i>		EFF: CURRENT ORDER
TRANSACTION CODES (TC) A-ADD C-CREATE R-REVISE D-DELETE		REASON: REVISE F/N 47 FROM MS20426-4M4 TO 601.3359.				

SHOP COPY
 RETURN TO
 ENGINEERING
 UNCONTROLLED COPY
 SUBJECT TO AMENDMENT
 WITHOUT NOTICE
 WORK ORDER
 NO. 125510 MLS
 14-10-09

47	R	601.3359	12	12	12	12	12	12	12	12	12	RIVET	MS20613C4-4		
F/N	TC	PART NUMBER	-015	-013	-011	-009	-007	-005	-003	-001		DESCRIPTION	MATERIAL	SPECIFICATION	
DOCUMENTS EFFECTED:			☐ MDL ☐ INSTALL INSTRUC ☐ ICA ☒ BOM									CHANGE CATEGORY ☐ MAJOR ☒ MINOR		DER REVIEW REQUIRED ☐ YES ☒ NO	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
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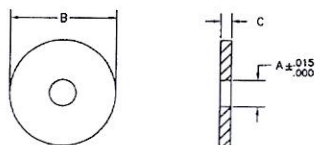
Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
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Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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1 2 3 4 5 6 7 8

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P/N	DIA. A	DIA. B	C
41228-202-132-001	.312	1.000	.100
41228-202-132-003	.312	1.000	.063
41228-202-132-005	.312	1.000	.032
41228-202-132-007	.312	1.000	.016
41228-202-132-009	.250	1.000	.100
41228-202-132-011	.250	1.000	.063
41228-202-132-013	.250	1.000	.032
41228-202-132-015	.250	1.000	.016

REV	DESCRIPTION	DATE	APPROVED
A	INCORPORATED E.D.S. A-2 & A-3. CHANGED TO FINE NO. SYSTEM. ADDED -002, -005, & -007 INST. FOR APPLICABLE MODEL AND CHANGED NEXT ASSY.	12-11-95	D. MARVILL
B	CHG. QTY. OF ITEM 10, 43 & 44. CHG. P/N OF ITEM 19 & 35. REVISED SHIM NOTES ON DETAILS A, B, E & H. CORRECTED ITEM NOS. ON DETAIL C.	02-20-98	D. MARVILL
C	ADDED -009, -001, -002A, -013 & -015 INSTALLATIONS. ADDED ITEMS 9A, 9B, 9C, 9D, 9A, 10A, 10A, 10A, 10A, 10A & 10B TO L/H. ADDED ITEM 59 TO L/H & F/F. MAJOR CHANGE - FAR 2157 (c).	01-14-03	D. MARVILL
D	INCORPORATED E.C.N. 01831, 01851, 01898 & 03000	12-02-10	P. BRAVO

UNINCORPORATED E.C.N(s)

03197

1	1	1	1	1	1	1	1	14	41228-305-005-002	R/H AFT LUG CAVITY INSTALLATION		
1	1	1	1	1	1	1	1	13	41228-305-005-001	L/H AFT LUG CAVITY INSTALLATION		
							1	12A	41228-301-066-003	FUEL RETURN CAVITY INSTALLATION		
1	1		1	1	1			12	41228-301-066-001	FUEL RETURN CAVITY INSTALLATION		
				1	1	1	1	11A	41228-301-064-003	CROSS FEED INSTALLATION		
					1	1	1	11	41228-301-064-001	CROSS FEED INSTALLATION		
1	1	1	1					10A	41228-200-006-002	R/H TANK ASSY		△
1	1	1	1					9A	41228-200-006-001	L/H TANK ASSY		△
				1	1	1	1	10	41228-200-005-002	R/H TANK ASSY		
					1	1	1	9	41228-200-005-001	L/H TANK ASSY		
			1					8D	41228-300-009-001	FUEL SYS. INSTL.		△
1								8C	41228-300-008-005	FUEL SYS. INSTL.		△
	1							8B	41228-300-008-003	FUEL SYS. INSTL.		△
			1					8A	41228-300-008-001	FUEL SYS. INSTL.		△
						1		8	41228-300-007-001	FUEL SYS. INSTL.		△
							1	7	41228-300-006-005	FUEL SYS. INSTL.		△
							1	6	41228-300-006-003	FUEL SYS. INSTL.		△
								5	41228-300-006-001	FUEL SYS. INSTL.		△
								-015	BELL 205A-A1			
								-013	BELL 212			
								-011	BELL 412 S/N 33108 & SUB			
								-009	BELL 412 S/N 33001-33107			
								-007	BELL 205A-A1			
								-005	BELL 212			
								-003	BELL 412 S/N 33108 & SUB			
								-001	BELL 412 S/N 33001-33107			
-015	-013	-011	-009	-007	-005	-003	-001	FIND No.	PART No.	DESCRIPTION	MATL	SPEC
QTY REQ'D									PARTS LIST			
NEXT ASSY(S)									ORIGINAL DATE 04-20-95			
41228-000-002									DRAWN BY T. MARVILLE			
									DRAWING APPROVAL			
									CONTRACT NO.			
									UNLESS OTHERWISE SPECIFIED			
									DIMENSIONS ARE IN INCHES			
									TOLERANCES ARE:			
									FRACTIONS 1/16, 1/8, 1/4, 3/8, 1/2, 5/8, 3/4, 7/8			
									DECIMALS .001, .005, .010, .015, .030, .045, .060, .075, .090, .125, .150, .1875, .250, .3125, .375, .500, .625, .750, .875, 1.000			
									ANGLES 1°, 5°, 10°, 15°, 30°, 45°, 60°, 75°, 90°, 105°, 120°, 135°, 150°, 165°, 180°			
									SHEET 1 OF 6			

- △ CENTER CONSOLE MOUNTING OPTION P/N 41228-600-009-005 20V (ITEM #S 9 & 10 S/N 115 & SUB.)
- △ BELL 412 S/N 33108 & SUB
- △ BELL 205A-A1
- △ BELL 212
- △ BELL 412 S/N 33001-33107
- △ MATING PARTS OF THE CONNECTION SHALL BE LESS THAN 1 OHM WHEN DRY. REF. MIL-B-5087B PARA 3.3.6.
- △ APPLY A CONVERSION COATING PER MIL-C-5541E CLASS 1A ON EXPOSED AREA.
- △ WIRE BRUSH EACH SIDE OF A/C HARD POINTS AT UPPER STA'S 84.5, 129.0 & 155.06 & LOWER STA'S 84.5 & 155.06.
- △ ESTABLISH ELECTRICAL BONDING PER MIL-B-5087B CLASS L PARA 3.3.4.3 AND CLASS R PARA 3.3.5.1.
- △ C: ADDITIONAL SHIMS MAY BE ADDED TO OUTSIDE OF HARD POINTS TO PROVIDE PROPER THREAD CLEARANCE FOR MS20365-428 NUT.
- △ B: ROTATE TANK UNDER HELICOPTER AND PUSH TANK ASSEMBLY AFT TO STRIKE THE UPPER LUGS AT STA. 84.5, 129.0 & 155.06 IF A GAP BETWEEN THE TANK LUG AND HARD POINT EXCEEDS .016 SHIM THE GAP WITH SHIMS SELECTED FROM TABLE 1 SHOWN ABOVE.
- △ A: TEMPORARILY INSTALL NAS1304 BOLT AT STA. 129 & AN4-16A AT STA. 155 UPPER LUGS ONLY.

NOTES:

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT
THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

[illegible][illegible]

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

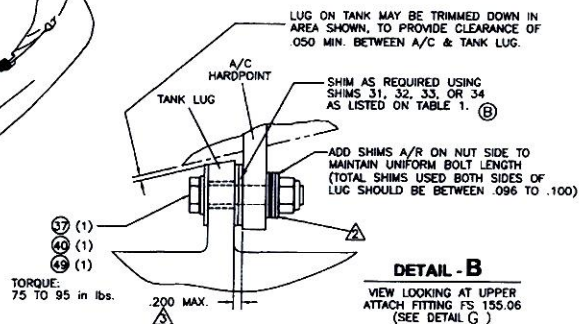
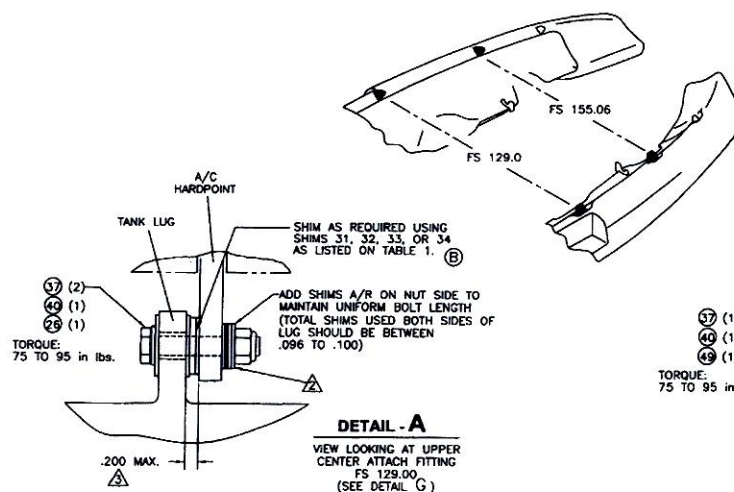
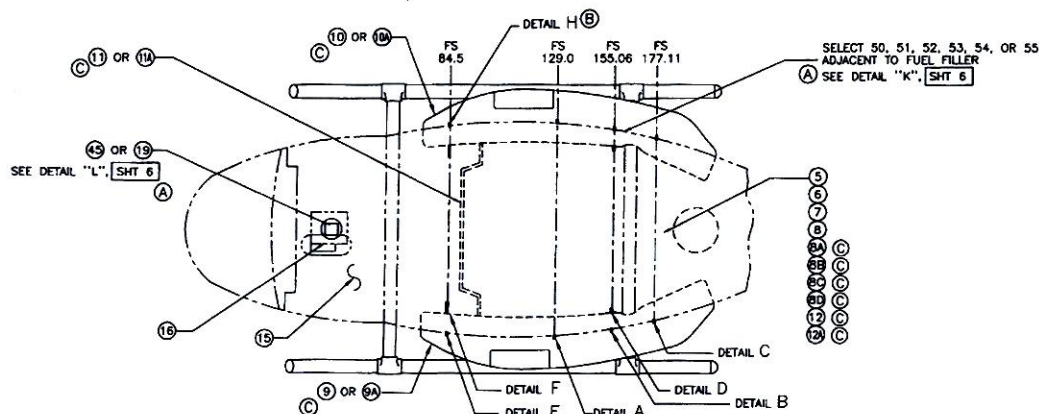
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
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Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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ORIGINAL DATE (DD-MN-YY) 04-20-85		DESIGNED BY T. HANVILLE	
DRAWING APPROVAL		CONTRACT NO.	
VALUED PROMISE STEPPED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS FRACTIONS DECIMALS		FUEL TANK INSTALLATION	
SIZE B	CAGE CODE 07428	QRC NO. 41228-000-004	REV D
SCALE NONE		SHEET 3 of 6	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
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Training									
Transport									
Unapproved									

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☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge		
☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other		

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Work Order update only ☐

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

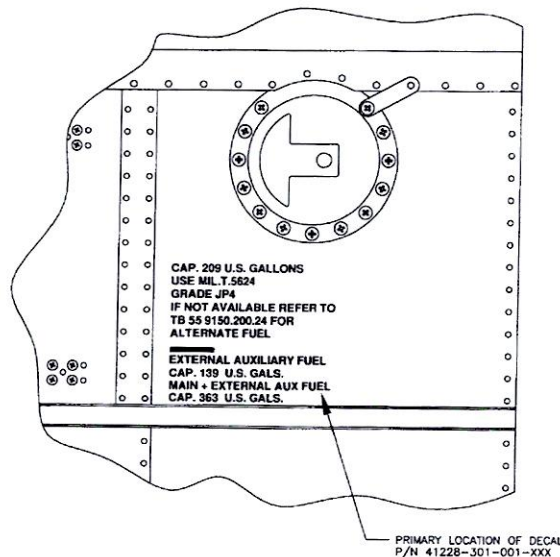
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Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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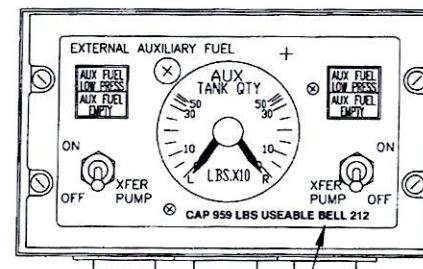


DECAL BELL 205/212
ITEM #54 OR ITEM #55
PROVIDES CONTRAST FOR BACKGROUND COLOR

DECAL BELL 412 S/N 33108 & SUB.
ITEM #52 OR ITEM #53
PROVIDES CONTRAST FOR BACKGROUND COLOR

DECAL BELL 412 S/N 33001-33107
ITEM #50 OR ITEM #51
PROVIDES CONTRAST FOR BACKGROUND COLOR

DETAIL - K



LOCATION OF DECAL
P/N 41228-301-001-XXX

DECAL BELL 412 S/N 33001 & SUB.
ITEM #56

DECAL BELL 205
ITEM #57

DECAL BELL 212 (SHOWN)
ITEM #58

DETAIL - L

ORIGINAL DATE (MM-DD-YY) 04-20-85			
DRAWN BY T. MARVILLE			
DRAWING APPROVAL		FUEL TANK INSTALLATION	
CONTRACT NO.		SCALE NONE	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES FRACTIONS ON 3 PLACE DECIMALS & NO FRACTIONS		SIZE B	CASE CODE 07426 SHEET 6 of 6

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Skid-tube ☐</td> <td style="width:15%;">Crosstube ☐</td> <td style="width:15%;">Water Jet ☐</td> <td style="width:15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Handling/Pre									
Material									
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Offset/Setup									
Process									
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Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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